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4761 CCR5

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L2 588 CCR5 RECEPTOR?

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ANSWER 1 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2001:661253 CAPLUS

DOCUMENT NUMBER:

135:226886

TITLE:

Preparation of N-(spiro[benzofuran-3(2H), 4'-piperidin]-

5-yl)-1,1'-biphenyl-4-carboxamides for treating a

CCR5-mediated diseases

INVENTOR(S):

Bondinell, William E.; Ku, Thomas W. Smithkline Beecham Corporation, USA

SOURCE:

PCT Int. Appl., 29 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT ASSIGNEE(S):

	PAT	TENT	NO.			KIN	D 	DATE			APPL	ICAT:	ION I	NO.		D	ATE	
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			MG,	MK,	MN,	MX,	ΜZ,	NO,	ΝZ,	PL,	RO,	SG,	SI,	SK,	SL,	TR,	TT,	TZ,
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		•	DE,	DK,	ES,	FI,	FR,	GB,	GR,	ΙE,	IT,	LU,	MC,	NL,	PT,	SE,	TR,	BF,
			ВJ,	CF,	CG,	CI,	CM,	GΑ,	GN,	GW,	ML,	MR,	ΝE,	SN,	TD,	TG		
PRIO	RITY	APP	LN.	INFO	.:						US 2	000-	1864	18P		P 2	0000	302
OTHER	R SC	URCE	(S):			MAR	PAT	135:	2268	86								
GI													•					

The title benzanilides ArAE [I; Ar = (un)substituted biphenyl, Ph; A = AB CONR, NHCO, CH2NH; R = H, alkyl; E = spiro[benzofuran-3(2H),4'-piperidin]-5-yl, etc.] which are modulators, agonists or antagonists of the CCR5 receptor, were prepared E.g., a multi-step synthesis of the compound II.CF3CO2H, was given. The compds. I showed CCR5 receptor modulator activity having IC50 values in the range of  $0.0001\text{--}100~\mu\text{M}.~$  In addition, this invention relates to the treatment and prevention of disease states mediated by CCR5, including, but not limited to, asthma and atopic disorders (for example, atopic dermatitis and allergies), rheumatoid arthritis, sarcoidosis, or idiopathic pulmonary fibrosis and other fibrotic diseases, atherosclerosis, psoriasis, autoimmune diseases such as multiple

II

sclerosis, treating and/or preventing rejection of transplanted organs, and inflammatory bowel disease, all in mammals, by the use of substituted benzanilides which are CCR5 receptor antagonists.

Furthermore, since CD8+ T cells have been implicated in COPD, CCR5 may play a role in their recruitment and therefore antagonists to CCR5 could provide potential therapeutic use in the treatment of COPD. Also, since CCR5 is a co-receptor for the entry of HIV into cells, selective receptor modulators may be useful in the treatment of HIV infection.

REFERENCE COUNT:

THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2000:645845 CAPLUS

DOCUMENT NUMBER:

133:222719

TITLE:

Preparation of substituted benzo[1,2-b:5,4-b']dipyran-

4-amines as CCR5 receptor

modulators

INVENTOR(S):

Blaney, Frank E.; Bondinell, William E.; Chan, James

Δ

PATENT ASSIGNEE(S):

Smithkline Beecham Corporation, USA; Smithkline

Beecham Plc

SOURCE:

GI

PCT Int. Appl., 31 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

Ι

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PA	PATENT NO.					) -	DATE				ICAT				D	ATE	
WO	2000	0531	75		A1		2000	0914		•					2	0000	310 <
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·		MX,	NO,	NZ,	PL,	RO,	SG,	SI,	SK,	SL,	TR,	TT,	TZ,	UA,	US,	UZ,	VN,
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US	6506	790			В1		2003	0114		US 2	001-	9145	02		2	0010	829
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•										WO 2	000-	US62	10	1	W 2	0000	310
OTHER S	OURCE	(S):			MAR	PAT	133:	2227	19								

ΙI

The title compds. (I) [wherein R1, R2, R4, R6, and R7 = independently H or AB alkyl; R3 = H or OH; R5 = H or (cyclo)alkyl; or NR4R5 = a 5-, 6-, or 7-membered heterocyclic ring; X = H or one or more (cyclo)alkyl, (cyclo)alkenyl, alkynyl, aralkyl, aryl, CH2NR9R10, CH2OR11, COR11, CONR9R10, CO2R11, CN, CF3, NR9R10, NR9COR11, NR9CONR9R10, NO2, OH, alkoxy, acyloxy, etc.; R9 and R10 = independently H, (ar)alkyl, or aryl; or NR9R10 = a 5- or 6-membered heterocyclic ring; R11 = H, (ar)alkyl, aryl, or CF3] were prepared as modulators of the CC chemokine receptor CC-CKR5 (CCR5). Thus, II was synthesized in a 6-step sequence involving (1) cycloaddn. of 3,3-dimethylacrylic acid to resorcinol using H2SO4 to give the 7-hydroxy-2,2-dimethylchromanone, (2) benzyl protection of the hydroxy group, (3) Grignard addition of 3-BrC6H4CF3 to form the chromene, (4) reduction and deprotection using Pd/C, (5) cycloaddn. of 3,3-dimethylacrylic acid using BF3 etherate to give the benzodipyranone, and (6) conversion to the benzodipyranamine with MeNH2 in the presence of TiCl4. I show CCR5 receptor modulator activity with IC50 values ranging from 0.0001  $\mu M$  to 100  $\mu M$ . I are useful in the treatment and prevention of disease states mediated by CCR5, including asthma and atopic disorders (e.g., atopic dermatitis and allergies), rheumatoid arthritis, sarcoidosis and other fibrotic diseases, atherosclerosis, psoriasis, autoimmune diseases such as multiple sclerosis, and inflammatory bowel disease. Since CD8+ T cells have been implicated in COPD and CCR5 plays a role in their recruitment, I are also expected to be therapeutic agents for the treatment of COPD. In addition, as modulators of the CCR5 receptor, which is a co-receptor for the entry of HIV into cells, I may be useful in the treatment of HIV infection.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2000:513446 CAPLUS

DOCUMENT NUMBER:

133:129863

TITLE:

Heterocyclic compound modulators of the CCR5 receptor, preparation thereof, and therapeutic

use

INVENTOR(S):
PATENT ASSIGNEE(S):

Bondinell, William E.; Neeb, Michael J. Smithkline Beecham Corporation, USA

SOURCE:

PCT Int. Appl., 43 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent English

LANGUAGE:

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

	PATENT NO.						)	DATE		4	APPL	ICAT:	ION I	.00		Di	ATE		
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OTHER SOURCE(S): MARPAT 133:129863

AB Substituted heterocyclic compds. are provided which are modulators, agonists or antagonists of the CCR5 receptor. Also

disclosed is the treatment and prevention of disease states mediated by CCR5, including, but no limited to, asthma and atopic disorders (for example, atopic dermatitis and allergies), rheumatoid arthritis, sarcoidosis and other fibrotic diseases, atherosclerosis, psoriasis, autoimmune diseases such as multiple sclerosis, and inflammatory bowel disease, all in mammals, by the use of substituted heterocyclic compds. which are CCR5 receptor antagonists. Furthermore, since CD8+ T cells have been implicated in COPD, CCR5 may play a role in their recruitment and therefore antagonists to CCR5 could provide potential therapeutic in the treatment of COPD. Also, since CCR5 is a co-receptor for the entry of HIV into cells, selective receptor modulators may be useful in the treatment of HIV infection.

REFERENCE COUNT:

THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2000:475535 CAPLUS

DOCUMENT NUMBER:

133:99557

TITLE:

Substituted benzanilides, their preparation, and their

use as CCR5 receptor modulators

INVENTOR(S):

Bondinell, William E.; Ku, Thomas W.; Wang, Ning

Smithkline Beecham Corporation, USA

SOURCE:

PCT Int. Appl., 37 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT ASSIGNEE(S):

PA?	CENT 1	NO.			KIN	D	DATE		AP	PL:	ICAT	ION I	NO.		D.	ATE		
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ΕP	1140	072			A1		2001	1010	EP	19	999-	9676	19		1	9991	228	<
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JP	2002	5343	83		T		2002	1015	JP	20	000-	5919	96		1	9991	228	
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									US	19	999-	1280	10P		P 1	9990	406	
									WO	19	999-	US30	888		W 1	9991	228	
	WO EP EP AT ES	WO 2000 W: RW: EP 1140 EP 1140 R: JP 2002 AT 2641 ES 2219	W: CA, RW: AT, PT, EP 1140072 EP 1140072 R: AT, IE, JP 20025343 AT 264100 ES 2219104	WO 2000040239 W: CA, JP, RW: AT, BE, PT, SE EP 1140072 EP 1140072 R: AT, BE, IE, FI JP 2002534383 AT 264100 ES 2219104	WO 2000040239 W: CA, JP, US RW: AT, BE, CH, PT, SE EP 1140072 EP 1140072 R: AT, BE, CH, IE, FI JP 2002534383 AT 264100	WO 2000040239 A1  W: CA, JP, US  RW: AT, BE, CH, CY,  PT, SE  EP 1140072 A1  EP 1140072 B1  R: AT, BE, CH, DE,  IE, FI  JP 2002534383 T  AT 264100 T  ES 2219104 T3	WO 2000040239 A1  W: CA, JP, US  RW: AT, BE, CH, CY, DE,  PT, SE  EP 1140072 A1  EP 1140072 B1  R: AT, BE, CH, DE, DK  IE, FI  JP 2002534383 T  AT 264100 T  ES 2219104 T3	WO 2000040239 A1 2000 W: CA, JP, US RW: AT, BE, CH, CY, DE, DK, PT, SE EP 1140072 A1 2001 EP 1140072 B1 2004 R: AT, BE, CH, DE, DK, ES, IE, FI JP 2002534383 T 2002 AT 264100 T 2004 ES 2219104 T3 2004	WO 2000040239 A1 20000713  W: CA, JP, US  RW: AT, BE, CH, CY, DE, DK, ES,  PT, SE  EP 1140072 A1 20011010  EP 1140072 B1 20040414  R: AT, BE, CH, DE, DK, ES, FR,  IE, FI  JP 2002534383 T 20021015  AT 264100 T 20040415  ES 2219104 T3 20041116	WO 2000040239 A1 20000713 WO W: CA, JP, US RW: AT, BE, CH, CY, DE, DK, ES, FI, F PT, SE EP 1140072 A1 20011010 EP EP 1140072 B1 20040414 R: AT, BE, CH, DE, DK, ES, FR, GB, G IE, FI JP 2002534383 T 20021015 JP AT 264100 T 20040415 AT ES 2219104 T3 20041116 ES RITY APPLN. INFO.: US	WO 2000040239 A1 20000713 WO 19  W: CA, JP, US  RW: AT, BE, CH, CY, DE, DK, ES, FI, FR,  PT, SE  EP 1140072 A1 20011010 EP 19  EP 1140072 B1 20040414  R: AT, BE, CH, DE, DK, ES, FR, GB, GR,  IE, FI  JP 2002534383 T 20021015 JP 20  AT 264100 T 20040415 AT 19  ES 2219104 T3 20041116 ES 19  RITY APPLN. INFO.:  US 19	WO 2000040239 A1 20000713 WO 1999- W: CA, JP, US RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, PT, SE  EP 1140072 A1 20011010 EP 1999- EP 1140072 B1 20040414 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, IE, FI  JP 2002534383 T 20021015 JP 2000- AT 264100 T 20040415 AT 1999- ES 2219104 T3 20041116 ES 1999- RITY APPLN. INFO.: US 1998-	WO 2000040239 A1 20000713 WO 1999-US30  W: CA, JP, US  RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR,  PT, SE  EP 1140072 A1 20011010 EP 1999-9676  EP 1140072 B1 20040414  R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI,  IE, FI  JP 2002534383 T 20021015 JP 2000-5919  AT 264100 T 20040415 AT 1999-9676  ES 2219104 T3 20041116 ES 1999-9676  RITY APPLN. INFO.:  US 1998-1142  US 1999-1280	WO 2000040239 A1 20000713 WO 1999-US30888  W: CA, JP, US  RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,  PT, SE  EP 1140072 A1 20011010 EP 1999-967619  EP 1140072 B1 20040414  R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU,  IE, FI  JP 2002534383 T 20021015 JP 2000-591996  AT 264100 T 20040415 AT 1999-967619  ES 2219104 T3 20041116 ES 1999-967619	WO 2000040239 A1 20000713 WO 1999-US30888  W: CA, JP, US  RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT,  PT, SE  EP 1140072 A1 20011010 EP 1999-967619  EP 1140072 B1 20040414  R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL,  IE, FI  JP 2002534383 T 20021015 JP 2000-591996  AT 264100 T 20040415 AT 1999-967619  ES 2219104 T3 20041116 ES 1999-967619  RITY APPLN. INFO.:  US 1998-114239P  US 1999-128010P	WO 2000040239 A1 20000713 WO 1999-US30888 1  W: CA, JP, US  RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU,  PT, SE  EP 1140072 A1 20011010 EP 1999-967619 1  EP 1140072 B1 20040414  R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,  IE, FI  JP 2002534383 T 20021015 JP 2000-591996 1  AT 264100 T 20040415 AT 1999-967619 1  ES 2219104 T3 20041116 ES 1999-967619 1  RITY APPLN. INFO.:  US 1999-128010P P 1	WO 2000040239 A1 20000713 WO 1999-US30888 19991 W: CA, JP, US RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, PT, SE  EP 1140072 A1 20011010 EP 1999-967619 19991 EP 1140072 B1 20040414 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, IE, FI  JP 2002534383 T 20021015 JP 2000-591996 19991 AT 264100 T 20040415 AT 1999-967619 19991 ES 2219104 T3 20041116 ES 1999-967619 19991 RITY APPLN. INFO.: US 1998-114239P P 19981	WO 2000040239 A1 20000713 WO 1999-US30888 19991228 W: CA, JP, US RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE EP 1140072 A1 20011010 EP 1999-967619 19991228 EP 1140072 B1 20040414 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI JP 2002534383 T 20021015 JP 2000-591996 19991228 AT 264100 T 20040415 AT 1999-967619 19991228 ES 2219104 T3 20041116 ES 1999-967619 19991228 RITY APPLN. INFO.: US 1998-114239P P 19981230 US 1999-128010P P 19990406

AB Substituted benzanilides are provided which are modulators, agonists or antagonists, of the CCR5 receptor. In addition, the invention relates to the treatment and prevention of disease states mediated by CCR5, including, but not limited to, asthma and atopic disorders (for example, atopic dermatitis and allergies), rheumatoid arthritis, sarcoidosis and other fibrotic diseases, atherosclerosis, psoriasis, autoimmune diseases such as multiple sclerosis, and inflammatory bowel disease, all in mammals, by the use of substituted benzanilides which are CCR5 receptor antagonists. Furthermore, since CD8+ T cells have been implicated in COPD, CCR5 may play a role in their recruitment and therefore antagonists to CCR5 could provide potential therapeutic in the treatment of COPD. Also, since CCR5 is a co-receptor for the entry of HIV into cells, selective receptor modulators may be useful in the treatment of HIV infection.

REFERENCE COUNT:

THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ACCESSION NUMBER:

1999:249078 CAPLUS

DOCUMENT NUMBER:

130:281994

TITLE:

Preparation of 3-(4-piperidinyl or

1, 2, 3, 6-tetrahydro-4-pyridinyl)-1H-indol-5-ols for

treating a CCR5-mediated diseases

INVENTOR(S):

Bondinell, William E.; Chan, James; Porter, Roderick

PATENT ASSIGNEE(S):

Smithkline Beecham Corporation, USA; Smithkline

Beecham Plc

SOURCE:

GΙ

PCT Int. Appl., 26 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND DATE	APPLICATION NO.	DATE
WO 9917773	A1 19990415	WO 1998-US21125	19981007 <
W: AL, AU, BA	, BB, BG, BR, CA,	CN, CZ, EE, GE, HU,	ID, IL, IS, JP,
KP, KR, LC	, LK, LR, LT, LV,	MG, MK, MN, MX, NO,	NZ, PL, RO, SG,
SI, SK, SL	, TR, TT, UA, US,	UZ, VN, YU, AM, AZ,	BY, KG, KZ, MD,
RU, TJ, TM	•	•	
RW: GH, GM, KE	, LS, MW, SD, SZ,	UG, ZW, AT, BE, CH,	CY, DE, DK, ES,
FI, FR, GB	, GR, IE, IT, LU,	MC, NL, PT, SE, BF,	BJ, CF, CG, CI,
CM, GA, GN	, GW, ML, MR, NE,	SN, TD, TG	
ZA 9809083	A 19990407	ZA 1998-9083	19981006 <
		CA 1998-2305805	
		AU 1998-97901	
EP 1037635	A1 20000927	EP 1998-952132	19981007 <
	, ES, FR, GB, IT,		
JP 2001518505	т 20011016	JP 2000-514644	19981007 <
US 6476028	B1 20021105	US 2000-529338	20000808
PRIORITY APPLN. INFO.:		US 1997-61217P	P 19971007
		WO 1998-US21125	W 19981007
OTHER SOURCE(S):	MARPAT 130:2819	94	

$$R^{2}$$
 $R^{2}$ 
 $R^{1}$ 
 $R^{2}$ 

The title compds. [I; X = H, alkyl, CF3, etc.; R1-R3 = H, alkyl; A = [C(R'')2]mCR''R4R5, [C(R'')2]nCR'':CR4R5; R'' = H, alkyl; m = 0-3; n = 1-2; R4 = Ph, biphenyl, naphthyl, etc.; R5 = R'', Ph, naphthyl] which are AΒ modulators, agonists or antagonists, of the CCR5 receptor, were prepared E.g., a 3-step synthesis of the title compound II, starting with 5-benzyloxyindole and 1-benzyl-4-piperidone, was given. Compds. I show CCR5 receptor modulator activity having IC50 of  $0.0001-100 \mu M$ . In addition, this invention relates to the treatment and prevention of disease states mediated by CCR5, including, but not limited to, asthma and atopic disorders (for example, atopic dermatitis and allergies), rheumatoid arthritis,

ΙI

sarcoidosis and other fibrotic diseases, atherosclerosis, psoriasis, autoimmune diseases such as multiple sclerosis, and inflammatory bowel disease, all in mammals, by the use of substituted 3-(4piperidinyl) indoles which are CCR5 receptor modulators. Furthermore, since CD8+ T cells have been implicated in Chronic Obstructive Pulmonary Disease ("COPD"), CCR5 may play a role in their recruitment and therefore antagonists to CCR5 could provide potential therapeutic in the treatment of COPD. Also, since CCR5 is a co-receptor for the entry of Human Immunodeficiency Virus ("HIV") into cells, receptor modulators may be useful in the treatment of HIV infection.

REFERENCE COUNT:

THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s 12 and arthritis? 46462 ARTHRITIS?

29 L2 AND ARTHRITIS? L6

=> s 16 and py<2002 21897378 PY<2002

8 L6 AND PY<2002 - ...

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ANSWER 1 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN

4

ACCESSION NUMBER: DOCUMENT NUMBER:

2001:661253 CAPLUS

135:226886

Preparation of N-(spiro[benzofuran-3(2H),4'-piperidin]-TITLE:

5-yl)-1,1'-biphenyl-4-carboxamides for treating a

CCR5-mediated diseases

INVENTOR(S): PATENT ASSIGNEE(S): Bondinell, William E.; Ku, Thomas W. Smithkline Beecham Corporation, USA

SOURCE:

PCT Int. Appl., 29 pp. CODEN: PIXXD2

DOCUMENT TYPE:

LANGUAGE:

Patent English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT	KIN	D :	DATE			APPL:	ICAT:	ION	NO.		D	ATE					
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WO 2001	0642	13		A1		2001	0907	1	WO 2	001-	US 68.	37		2	0010	302 <	-
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	MG,	MK,	MN,	MX,	ΜZ,	NO,	ΝZ,	PL,	RO,	SG,	SI,	SK,	SL,	TR,	TT,	TZ,	
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RW:	GH,	GM,	ΚE,	LS,	MW,	ΜZ,	SD,	SL,	SZ,	TZ,	UG,	ZW,	ΑT,	BE,	CH,	CY,	
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PRIORITY APE	LN.	INFO	.:					!	US 2	000-	1864	18P		P 20	0000	302	
OTHER SOURCE	:(S):	*		MAR	PAT	135:	2268	86								•	
GT																	

AΒ The title benzanilides ArAE [I; Ar = (un)substituted biphenyl, Ph; A = CONR, NHCO, CH2NH; R = H, alkyl; E = spiro[benzofuran-3(2H),4'-piperidin]-5-yl, etc.] which are modulators, agonists or antagonists of the CCR5 receptor, were prepared E.g., a multi-step synthesis of the compound II.CF3CO2H, was given. The compds. I showed CCR5 receptor modulator activity having IC50 values in the range of 0.0001-100 ... In addition, this invention relates to the treatment and prevention of disease states mediated by CCR5, including, but not limited to, asthma and atopic disorders (for example, atopic dermatitis and allergies), rheumatoid arthritis, sarcoidosis, or idiopathic pulmonary fibrosis and other fibrotic diseases, atherosclerosis, psoriasis, autoimmune diseases such as multiple sclerosis, treating and/or preventing rejection of transplanted organs, and inflammatory bowel disease, all in mammals, by the use of substituted benzanilides which are CCR5 receptor antagonists. Furthermore, since CD8+ T cells have been implicated in COPD, CCR5 may play a role in their recruitment and therefore antagonists to CCR5 could provide potential therapeutic use in the treatment of COPD. Also, since CCR5 is a co-receptor for the entry of HIV into cells, selective receptor modulators may be useful in the treatment of HIV infection. 3

REFERENCE COUNT:

THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS -RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 2 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2001:435041 CAPLUS

DOCUMENT NUMBER:

135:33431

TITLE:

Preparation of cycloamine as CCR5

receptor antagonists

INVENTOR(S):

Shiota, Tatsuki; Yokoyama, Tomonori; Kamimura, Takashi

PATENT ASSIGNEE(S):

Teijin Limited, Japan PCT Int. Appl., 271 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

SOURCE:

Japanese

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PA.	rent		KIN	D.	DATE			APPL	ICAT	ION	NO.		D	ATE			
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CA	2393	757			A1		2001	0614		CA 2	000-	2393	757		2	0001	206 <

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AU 200117314
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                                                                    20001206 <--
     AU 778173
                          B2
                                20041118
     EP 1238970
                          A1
                                20020911
                                            EP 2000-979945
                                                                    20001206
     EP 1238970
                          В1
                                20061122
         R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
                          Т
                                20061215
                                            AT 2000-979945
     AT 346042
                                                                    20001206
     US 2007010509
                          Α1
                                20070111
                                            US 2002-148831
                                                                    20020605
PRIORITY APPLN. INFO.:
                                            JP 1999-348778
                                                                Α
                                                                   19991208
                                            WO 2000-JP8627
                                                                W
                                                                   20001206
OTHER SOURCE(S):
                         MARPAT 135:33431
GI
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Ι

$$\begin{array}{c|c}
R^{1} \\
R^{2} \\
C - (CH_{2}) j - N \\
(CH_{2}) m
\end{array}$$

$$\begin{array}{c}
R^{3} \\
(CH_{2}) n - NCO - (CH_{2}) p - C - (CH_{2}) q - GR6 \\
R^{5}$$

Therapeutic or preventive agents for  $\beta$ -chemokine receptor AB CCR5-related diseases such as AIDS, rheumatoid arthritis, and nephritis, containing as the active ingredient, cyclic amine derivs. such as piperidine and pyrrolidine derivs. of general formula [I; R1 = (un) substituted Ph, C3-8 cycloalkyl, or aromatic heterocyclyl containing 1-3 heteroatoms of O, S, and/N wherein Ph and aromatic heterocyclyl group is optionally condensed to benzene ring or heterocyclyl ring containing 1-3 heteroatoms of O, S, and/N to from an (un)substituted condensed ring; R2 = H, (un) substituted C1-6 alkyl or Ph, C2-7 alkoxycarbonyl, HO; j, k = 0-2; m = 2-4; n = 0,1; R3 = H, (un)substituted phenyl-optionally substituted C1-6 alkyl; R4, R5 = H, HO, Ph, (un)substituted C1-6 alkyl; or R4 and R5 together represent a 3-6-membered ring cyclic hydrocarbyl; p, q = 0,1; G = CO, SO2, CO2, NR7CO, CONR7, NHCONH, NHC(S)NH, NR7SO2, SO2 NR7, NHCO2, O2CNH (wherein R7 = H, C1-6 alkyl; or R7 and R5 together form C2-5 alkylene); R6 = (un)substituted C3-8 cycloalkyl, C3-6 cycloalkenyl, Ph, benzyl, or aromatic heterocyclyl containing 1-3 heteroatoms of O, S, and/N, wherein Ph, benzyl, and aromatic heterocyclyl are optionally condensed with benzene ring or aromatic heterocyclyl group containing 1-3 heteroatoms of O, S, and/N to form an (un)substituted condensed ring], pharmaceutically acceptable adducts of the same with acids, or pharmaceutically acceptable adducts thereof with C1-6 alkyl, are described. Above CCR5-related diseases include diseases accompanied by destruction of cartilage or bone (in particular chronic rheumatoid arthritis), nephritis or kidney diseases (in particular glomerulonephritis, interstitial nephritis, or nephrosis), demyelinating diseases (in particular multiple sclerosis), post-transplant rejection, host-vs.-graft diseases (GVHD), diabetes, chronic obstructive pulmonary diseases (COPD), bronchial asthma, atopic dermatitis, sarcoidosis, fibrosis, arteriosclerosis, psoriasis, and inflammatory bowel diseases. Thus, 3-(trifluoromethylthio)benzoic acid was condensed with (R)-1-(4-chlorobenzyl)-3-(glycylamino)pyrrolidine using diisopropylcarbodiimide and HOBt in tert-butanol and CHC13 at room temperature for 15 h to give (R)-1-(4-chlorobenzyl)-3-[[N-(3-chlorobenzyl)](trifluoromethylthio)benzoyl)glycyl]amino]pyrrolidine (II). II and (R)-1-(6-methyl-3-indolylmethyl)-3-[[N-(2-amino-5-indolylmethyl)]-3-[[N-(2-amino-5-indolylmethyl)]-3-[[N-(2-amino-5-indolylmethyl)]-3-[[N-(2-amino-5-indolylmethyl)]-3-[[N-(2-amino-5-indolylmethyl)]-3-[[N-(2-amino-5-indolylmethyl)]-3-[[N-(2-amino-5-indolylmethyl)]-3-[[N-(2-amino-5-indolylmethyl)]-3-[[N-(2-amino-5-indolylmethyl)]-3-[[N-(2-amino-5-indolylmethyl)]-3-[[N-(2-amino-5-indolylmethyl)]-3-[[N-(2-amino-5-indolylmethyl)]-3-[[N-(2-amino-5-indolylmethyl)]-3-[[N-(2-amino-5-indolylmethyl)]-3-[[N-(2-amino-5-indolylmethyl)]-3-[[N-(2-amino-5-indolylmethyl)]-3-[[N-(2-amino-5-indolylmethyl)]-3-[[N-(2-amino-5-indolylmethyl)]-3-[[N-(2-amino-5-indolylmethyl)]-3-[[N-(2-amino-5-indolylmethyl](trifluoromethoxy)benzoyl)glycyl]amino]pyrrolidine 10 µM in vitro inhibited by 20-50% and >80%, resp., the binding of [1251] macrophage inflammatory protein- $1\alpha$  (MIP- $1\alpha$ ) to CCR5receptor expressed in CHO cells.

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN ACCESSION NUMBER: 2000:645845 CAPLUS

DOCUMENT NUMBER:

133:222719

TITLE:

Preparation of substituted benzo[1,2-b:5,4-b']dipyran-

4-amines as CCR5 receptor

modulators.

INVENTOR(S):

Blaney, Frank E.; Bondinell, William E.; Chan, James

PATENT ASSIGNEE(S):

Smithkline Beecham Corporation, USA; Smithkline

Beecham Plc

SOURCE:

PCT Int. Appl., 31 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND DATE	APPLICATION NO.	DATE
WO 2000053175	A1 20000914	WO 2000-US6210	20000310 <
W: AE, AL, AU,	BA, BB, BG, BR,	CA, CN, CZ, EE, GE,	GH, GM, HR, HU,
		LC, LK, LR, LT, LV,	
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	AZ, BY, KG, KZ,	MD, RU, TJ, TM SZ, TZ, UG, ZW, AT,	DE CH CY DE
• • • • •		IT, LU, MC, NL, PT,	
		MR, NE, SN, TD, TG	31, B1, B0, C1,
		EP 2000-913848	20000310 <
EP 1156801	B1 20040707		
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	LV, FI, RO		
JP 2002538203	T 20021112	JP 2000-603664	20000310
		AT 2000-913848	20000310
ES 2223481			
US 6506790	B1 20030114	US 2001-914502	20010829
PRIORITY APPLN. INFO.:		US 1999-123607P	P 19990310
		WO 2000-US6210	W 20000310
OTHER SOURCE(S):	MARPAT 133:2227	19	

$$R^{5}$$
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 $R^{7}$ 
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 $R^{6}$ 
 $R^{7}$ 
 $R^{7$ 

AΒ The title compds. (I) [wherein R1, R2, R4, R6, and R7 = independently H or alkyl; R3 = H or OH; R5 = H or (cyclo)alkyl; or NR4R5 = a 5-, 6-, or 7-membered heterocyclic ring; X = H or one or more (cyclo)alkyl, (cyclo)alkenyl, alkynyl, aralkyl, aryl, CH2NR9R10, CH2OR11, COR11, CONR9R10, CO2R11, CN, CF3, NR9R10, NR9COR11, NR9CONR9R10, NO2, OH, alkoxy, acyloxy, etc.; R9 and R10 = independently H, (ar)alkyl, or aryl; or NR9R10 = a 5- or 6-membered heterocyclic ring; R11 = H, (ar)alkyl, aryl, or CF3] were prepared as modulators of the CC chemokine receptor CC-CKR5 (CCR5). Thus, II was synthesized in a 6-step sequence involving (1) cycloaddn. of 3,3-dimethylacrylic acid to resorcinol using H2SO4 to give the 7-hydroxy-2,2-dimethylchromanone, (2) benzyl protection of the hydroxy group, (3) Grignard addition of 3-BrC6H4CF3 to form the chromene, (4) reduction

and deprotection using Pd/C, (5) cycloaddn. of 3,3-dimethylacrylic acid using BF3 etherate to give the benzodipyranone, and (6) conversion to the benzodipyranamine with MeNH2 in the presence of TiCl4. I show CCR5 receptor modulator activity with IC50 values ranging from 0.0001  $\mu M$  to 100  $\mu M$ . I are useful in the treatment and prevention of disease states mediated by CCR5, including asthma and atopic disorders (e.g., atopic dermatitis and allergies), rheumatoid arthritis, sarcoidosis and other fibrotic diseases, atherosclerosis, psoriasis, autoimmune diseases such as multiple sclerosis, and inflammatory bowel disease. Since CD8+ T cells have been implicated in COPD and CCR5 plays a role in their recruitment, I are also expected to be therapeutic agents for the treatment of COPD. In addition, as modulators of the CCR5 receptor, which is a co-receptor for the entry of HIV into cells, I may be useful in the

treatment of HIV infection.

REFERENCE COUNT:

THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 4 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN

2

ACCESSION NUMBER:

2000:513446 CAPLUS

DOCUMENT NUMBER:

133:129863

TITLE:

Heterocyclic compound modulators of the CCR5 receptor, preparation thereof, and therapeutic

ADDITONTION NO

שתית

INVENTOR(S):

Bondinell, William E.; Neeb, Michael J.

PATENT ASSIGNEE(S):

Smithkline Beecham Corporation, USA

SOURCE:

PCT Int. Appl., 43 pp. CODEN: PIXXD2

חאיייבי

DOCUMENT TYPE:

Patent

LANGUAGE:

English

KIMD

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

DATENT NO

PA	PATENT NO.					_	DATE		. 1	APPL.	ICAT.	ION I	NO.		Di	ATE		
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		MX,	NO,	ΝZ,	PL,	RO,	SG,	SI,	SK,	SL,	TR,	TT,	UA,	US,	UZ,	VN,	YU,	
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EP	1146	790			A1		2001	1024	1	EP 2	000-	9099	84		. 2	0000	125 <-	-
	R:	AT,	BE,	CH,	DE,	DK,	ES,	FR,	GB,	GR,	IT,	LI,	LU,	NL,	SE,	MC,	PT,	
		ΙE,	SI,	LT,	LV,	FI,	RO											
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PRIORIT	Y APP	LN.	INFO	.:					1	JS 1	999-:	1170	44P	]	P 1	9990:	125	
•							1	WO 2	000-	US19	80	Ţ	W 21	0000	125			
OTUTO CA	TIRCE	191 .			MARI	РΔΨ	133.	1298	63									

## OTHER SOURCE(S): MARPAT 133:129863

Substituted heterocyclic compds. are provided which are modulators, AB agonists or antagonists of the CCR5 receptor. Also disclosed is the treatment and prevention of disease states mediated by CCR5, including, but no limited to, asthma and atopic disorders (for example, atopic dermatitis and allergies), rheumatoid arthritis, sarcoidosis and other fibrotic diseases, atherosclerosis, psoriasis, autoimmune diseases such as multiple sclerosis, and inflammatory bowel disease, all in mammals, by the use of substituted heterocyclic compds. which are CCR5 receptor antagonists. Furthermore, since CD8+ T cells have been implicated in COPD, CCR5 may play a role in their recruitment and therefore antagonists to CCR5 could provide potential therapeutic in the treatment of COPD. Also, since CCR5 is a co-receptor for the entry of HIV into cells, selective receptor modulators may be useful in the treatment of HIV infection.

REFERENCE COUNT: THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS

WO 1999-US30888

W 19991228

L7 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:475535 CAPLUS

DOCUMENT NUMBER: 133:99557

TITLE: Substituted benzanilides, their preparation, and their

use as CCR5 receptor modulators

INVENTOR(S): Bondinell, William E.; Ku, Thomas W.; Wang, Ning

PATENT ASSIGNEE(S): Smithkline Beecham Corporation, USA

SOURCE: PCT Int. Appl., 37 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PA	TENT NO.		KIN	D	DATE		APP	LICAT	ION	NO.		D	ATE		
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EP	1140072	•	•	A1		2001	1010	EP	1999-	9676	19	1	1	9991	228 <
EP	1140072			В1		2004	0414								
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	IE	, FI													
JP	2002534	383		$\mathbf{T}$		2002	1015	JP	2000-	5919	96	,	1	9991	228
AT	264100			${f T}$		2004	0415	AT	1999-	9676	19		1	9991:	228
ES	2219104			т3		2004	1116	ES	1999-	9676	19		1	9991	228
PRIORIT	Y APPLN.	INFO	.:					US	1998-	1142	39P	]	P 1:	9981:	230
								US	1999-	1280	10P	]	P 1:	9990	406

AB Substituted benzanilides are provided which are modulators, agonists or antagonists, of the CCR5 receptor. In addition, the invention relates to the treatment and prevention of disease states mediated by CCR5, including, but not limited to, asthma and atopic disorders (for example, atopic dermatitis and allergies), rheumatoid arthritis, sarcoidosis and other fibrotic diseases, atherosclerosis, psoriasis, autoimmune diseases such as multiple sclerosis, and inflammatory bowel disease, all in mammals, by the use of substituted benzanilides which are CCR5 receptor antagonists. Furthermore, since CD8+ T cells have been implicated in COPD, CCR5 may play a role in their recruitment and therefore antagonists to CCR5 could provide potential therapeutic in the treatment of COPD. Also, since CCR5 is a co-receptor for the entry of HIV into cells, selective receptor modulators may be useful in the treatment of HIV infection.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:98304 CAPLUS

DOCUMENT NUMBER: 132:151564

TITLE: Preparation of substituted anilides as modulators,

agonists or antagonists of the CCR5

receptor

INVENTOR(S): Ku, Thomas W.; Bondinell, William E.; Neeb, Michael J.

PATENT ASSIGNEE(S): Smithkline Beecham Corporation, USA

SOURCE: PCT Int. Appl., 51 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

	PATENT NO.						D	DATE				LICAT				D.	ATE		
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AB The title compds. [I; the basic N in moiety E may be optionally quaternized with alkyl or is optionally present as the N-oxide; P1, P2 = Ph, fused bicyclic aryl, monocyclic heterocyclyl, etc.; A = CO, O, SOc, etc.; L = CH2NH, NHCH2, etc.; R1, R2 = H, alkyl, alkenyl, etc.; R3 = H, alkyl, cycloalkyl, etc.; a, b = 1-3; c = 0-2] which are modulators, agonists or antagonists of the CCR5 receptor, and therefore useful in treating COPD, asthma and atopic disorders, rheumatoid arthritis, atherosclerosis, sarcoidosis and other fibrotic disease, psoriasis, autoimmune diseases such as multiple sclerosis, inflammatory bowel disease, and HIV, were prepared E.g., a synthesis of benzamide II starting with (4-formyl-3,5-dimethoxyphenoxy)-Merrifield resin and 3-[2-(diethylamino)ethoxy]-4-methoxyaniline, was given. Compds. I show CCR5 receptor modulator activity having IC50 values of 0.0001 to 100  $\mu M$ .

REFERENCE COUNT:

THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS

L7 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1999:461743 CAPLUS

DOCUMENT NUMBER: 131:241862

TITLE: CCR5+ and CXCR3+ T cells are increased in multiple

sclerosis and their ligands MIP-1 $\alpha$  and IP-10 are

expressed in demyelinating brain lesions

Balashov, Konstantin E.; Rottman, James B.; Weiner, AUTHOR(S):

Howard L.; Hancock, Wayne W.

CORPORATE SOURCE: Center for Neurologic Diseases, Brigham and Women's

Hospital, Boston, MA, 02115, USA

Proceedings of the National Academy of Sciences of the SOURCE:

United States of America (1999), 96(12),

6873-6878

CODEN: PNASA6; ISSN: 0027-8424 National Academy of Sciences

DOCUMENT TYPE: Journal LANGUAGE: English

PUBLISHER:

AB

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Multiple sclerosis (MS) is a T cell-dependent chronic inflammatory disease of the central nervous system. The role of chemokines in MS and its different stages is uncertain. Recent data suggest a bias in expression of chemokine receptors by Th1 vs. Th2 cells; human Th1 clones express CXCR3 and CCR5 and Th2 clones express CCR3 and CCR4. Chemokine receptors expressed by Th1 cells may be important in MS, as increased interferon- $\gamma$  (IFN- $\gamma$ ) precedes clin. attacks, and IFN- $\gamma$ injection induces disease exacerbations. The authors found CXCR3+ T cells increased in blood of relapsing-remitting MS, and both CCR5+ and CXCR3+ T cells increased in progressive MS compared with controls. Furthermore, peripheral blood CCR5+ T cells secreted high levels of IFN- $\gamma$ . the brain, the CCR5 ligand, MIP- $1\alpha$ , was strongly associated with microglia/macrophages, and the CXCR3 ligand, IP-10, was expressed by astrocytes in MS lesions but not unaffected white matter of control or MS subjects. Areas of plaque formation were infiltrated by CCR5-expressing and, to a lesser extent, CXCR3-expressing cells; interleukin (IL)-18 and IFN- $\gamma$  were expressed in demyelinating lesions. No leukocyte expression of CCR3, CCR4, or 6 other chemokines, or anti-inflammatory cytokines IL-5, IL-10, IL-13, and transforming growth factor- $\beta$  was observed Thus, chemokine receptor expression may be used for immunol. staging of MS and potentially for other chronic autoimmune/inflammatory processes such as rheumatoid arthritis, autoimmune diabetes, or chronic transplant rejection. Furthermore, these results provide a rationale for the use of agents that block CCR5 and/or CXCR3 as a therapeutic approach in the treatment of MS.

REFERENCE COUNT: THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS 24 . RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1999:249078 CAPLUS

DOCUMENT NUMBER:

130:281994

TITLE:

Preparation of 3-(4-piperidinyl or

1,2,3,6-tetrahydro-4-pyridinyl)-1H-indol-5-ols for

treating a CCR5-mediated diseases

INVENTOR(S): Α.

Bondinell, William E.; Chan, James; Porter, Roderick

PATENT ASSIGNEE(S): - Smithkline Beecham Corporation, USA; Smithkline

Beecham Plc

PCT Int. Appl., 26 pp.

SOURCE: CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

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             SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD,
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     AU 9897901
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     EP 1037635
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                                             EP 1998-952132
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             BE, CH, DE, ES, FR, GB, IT, LI, NL
     JP 2001518505
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PRIORITY APPLN. INFO.:
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OTHER SOURCE(S):
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$$R^{3}$$
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The title compds. [I; X = H, alkyl, CF3, etc.; R1-R3 = H, alkyl; A = [C(R'')2]mCR''R4R5, [C(R'')2]nCR'':CR4R5; R'' = H, alkyl; m = 0-3; n = 1-2; R4 = Ph, biphenyl, naphthyl, etc.; R5 = R'', Ph, naphthyl] which are AB modulators, agonists or antagonists, of the CCR5 receptor, were prepared E.g., a 3-step synthesis of the title compound II, starting with 5-benzyloxyindole and 1-benzyl-4-piperidone, was given. Compds. I show CCR5 receptor modulator activity having IC50 of  $0.0001-100~\mu M$ . In addition, this invention relates to the treatment and prevention of disease states mediated by CCR5, including, but not limited to, asthma and atopic disorders (for example, atopic dermatitis and allergies), rheumatoid arthritis, sarcoidosis and other fibrotic diseases, atherosclerosis, psoriasis, autoimmune diseases such as multiple sclerosis, and inflammatory bowel disease, all in mammals, by the use of substituted 3-(4piperidinyl) indoles which are CCR5 receptor modulators. Furthermore, since CD8+ T cells have been implicated in Chronic Obstructive Pulmonary Disease ("COPD"), CCR5 may play a role in their recruitment and therefore antagonists to CCR5 could provide potential therapeutic in the treatment of COPD. Also, since CCR5 is a co-receptor for the entry of Human Immunodeficiency Virus ("HIV") into cells, receptor modulators may be useful in the treatment of HIV infection.

REFERENCE COUNT:

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THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

FULL ESTIMATED COST SESSION 57.23 57.44

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